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PITH NECROSIS OF TOMATO

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Pith necrosis of tomatoes is incited by the bacterium Pseudomonas corrugata Roberts and Scarlett. The pathogen has been reported on greenhouse-grown tomatoes in England (4) and Germany (3) and on alfalfa in the U. S. (2). The disease recently has been detected on field-grown tomatoes in Florida (1). It was first observed in the Manatee-Ruskin area, but has since been found in 19 other counties (1).

During the early growth stages of tomato plants (in cool weather), the disease initially appears to be extremely destructive with affected plants apparently lost to production. However, with the advance of warm weather, the disease becomes far less noticeable, and the plants eventually grow out of the condition except for the occasional death of an isolated plant or two.

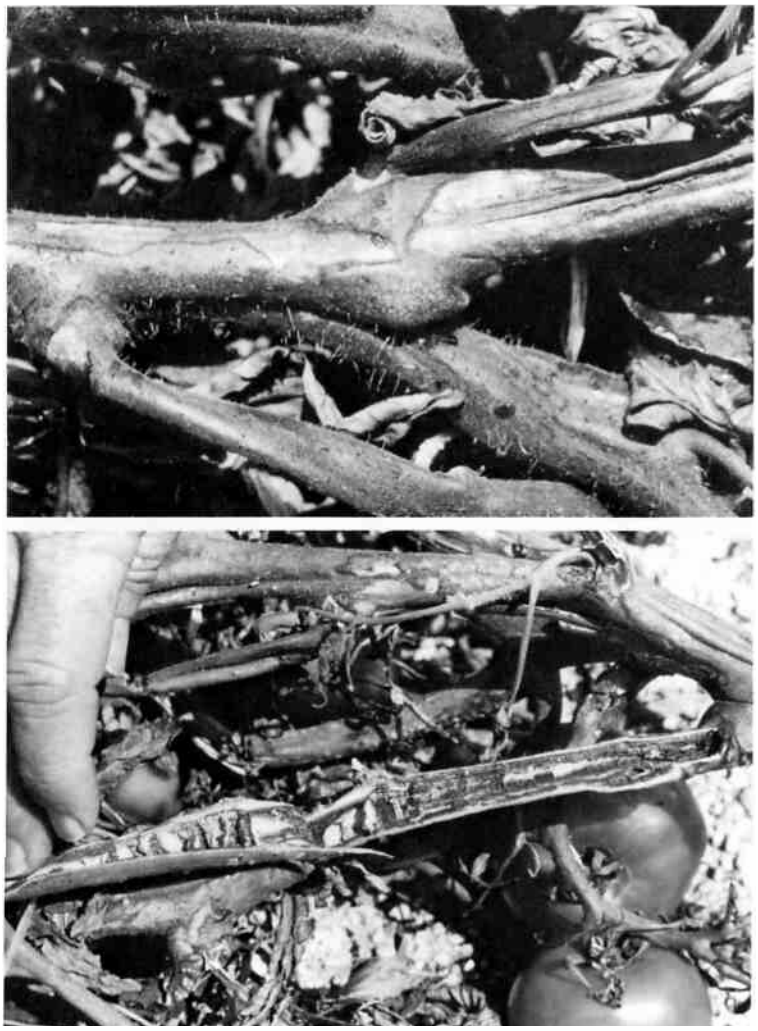

Fig. 1. Pseudomonas corrugata on tomato.
A) Tan, necrotic lesions on stem.
B) Longitudinal section of stem showing brown discoloration and chambering of pith.

The disease is favored by high humidity, moderate temperature, (75-78 F, unpublished data) and by high nitrogen fertilizers which contribute to extremely succulent and susceptible vegetative growth (4). The source of inoculum is unknown. In England, the bacterium has been isolated from water sources used for tomato production (4). In the only previous report on this bacterium in the U. S., it was isolated from healthy roots of greenhouse-grown alfalfa (2). Weed species potentially could harbor the bacterium that could infect tomato crops.

SYMPTOMS. A diseased plant is readily detectable by the yellowing of the younger foliage. Affected areas have brown, sunken, necrotic stern lesions (Fig. 1A). Longitudinal cuts through affected stem tissue reveal a chambered pith (Fig. 1B). Brown discoloration of the pith or complete pith collapse often extends a considerable distance beyond the external browning. Vascular browning often extends up and down the stem beyond the pith discoloration. Adventitious roots proliferate on the stem in the area of disease development as infected

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plants continue to grow. As the plants mature, symptoms become less noticeable, and the plants appear to recover completely from the disorder.

CONTROL. Spraying plants with a copper–EBDC combination prior to pruning may help to reduce potential spread. Avoid overfertilization.

SURVEY AND DETECTION. Look for yellowing of young foliage and brown, sunken stem lesions. Cutting into (or through) affected stem tissue will reveal brown discoloration and chambering of the pith.

LITERATURE CITED.

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